

# Fact Sheet



## For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on February 17, 2010.

Permit Number: **R30-02900008-2010**

Application Received: **March 29, 2010**

Plant Identification Number: **03-54-029-00008**

Permittee: **Ergon - West Virginia, Inc.**

Mailing Address: **P.O. Box 356 Newell, WV 26050**

Permit Action Number: *MM01*, Revised: *Proposed*

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Physical Location:	Newell, Hancock County, West Virginia
UTM Coordinates:	531.25 km Easting • 4495.35 km Northing • Zone 17
Directions:	Two miles south of Newell on State Route 2.

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### Facility Description

Ergon - West Virginia, Inc. (EWVI) owns and operates a petroleum refinery (SIC 2911 and NAICS 32411) in Newell, West Virginia. The refinery processes crude oil and produces several petroleum products such as diesel, gasoline, kerosene, and crude oils. The facility has the potential to operate twenty-fours (24) hours a day for seven (7) days per week.

This minor modification is to include R13-2334P in the Title V Permit, which is to load crude oil as a raw material onto barges at the Marine Loading Dock (Emission Point ID MLD) and the throughput modification of Tanks 4060, 4061, and 4062. Tanks 4060 and 4061 throughput will each increase from 6,667 barrels a day (bpd) to 10,000 bpd. Tank 4062 throughput will be reduced from 6,600 bpd to 4,500 bpd. This modification will also incorporate R13-2334O that was issued on March 18, 2010, which is to: (1) begin combusting Refinery Fuel Gas (RFG) in Boiler C and Heater H-701; (2) update emissions from the refinery flare which now has a Flare Gas Recovery (FGR) system; (3) changes to reflect that Ergon is not subject to MACT requirements since they demonstrated that they are a minor source of HAPs; and (4) miscellaneous requested changes.

## Emissions Summary

Plantwide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Volatile Organic Compounds (VOC)	27.07 Increase

## Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 238.64 tons per year of carbon monoxide, 273.9 tons per year of nitrogen oxides, 132.83 tons per year of sulfur dioxide, and 231.49 tons per year of volatile organic compounds. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Ergon -West Virginia, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

## Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources
	45CSR30	Operating permit requirement.
State Only:	None	

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

## Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit ( <i>if any</i> )
R13-2334P	July 13, 2010	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

### **Determinations and Justifications**

The following changes to the February 17, 2010 Title V Permit are NSR permits, R13-2334O and R13-2334P.

1. NSR permit, R13-2334O, is:
  - (1) To combust Refinery Fuel Gas (RFG) in Boiler C and Heater H-701;
  - (2) To update emissions from the refinery flare that now has a Flare Gas Recovery (FGR) system;
  - (3) To make changes to reflect that Ergon is not subject to MACT requirements because they are a minor source of HAPs; and
  - (4) To make miscellaneous requested changes to R13-2334O as outlined in the R13-2334O Engineering Evaluation/Fact Sheet.
2. NSR permit, R13-2334P, is:
  - (1) To load crude oil as a raw material onto barges at the Marine Loading Dock (Emission Point ID MLD).
  - (2) To modify the throughputs for:
    - a. Tank 4060 from 6,667 barrels a day (bpd) to 10,000 bpd
    - b. Tank 4061 from 6,667 barrels a day (bpd) to 10,000 bpd
    - c. Tanks 4062 will be reduced from 6,600 bpd to 4,500 bpd.
3. The Emission Unit Table (Section 1.1) was updated to reflect the addition of refinery fuel gas for heater H-701 and Boiler C. The design capacity for the Marine Barge Loading was increased from 101.2 to 135.49 MMgal/year. Process vessels were included in Section 1.1 since they were inserted in the latest R13-2334 version.
4. Section 3.1.11 was revised to concur with Condition 4.1.24, which is situated in the boiler and heater requirements of the current R13-2334. Condition 4.1.24 is for control equipment at the EWVI facility. Since the boilers and heaters do not have control equipment associated with them (see Emission Unit Table, Section 1.1), this condition was located in the facility-wide section of the Title V permit as Section 3.1.11 for sources that have control equipment.
5. The contents of Section 3.1.12 were replaced with "Reserved" since the specific NSPS requirements that Ergon is subject to are now incorporated throughout the permit and this requirement was removed the current R13 permit.
6. Section 3.1.13 is necessary to maintain since the facility operates a fuel gas CEMS. This section was revised by removing "install" from the requirement since the fuel gas CEMS was installed by December 31, 2006 as required by the Consent Decree. The citation was also revised from "45CSR13 - Permit R13-2334 - 3.1.11" to "Consent Decree Civil No. 3:03CV114010S Paragraph V.12.B" because this requirement was omitted from the current NSR permit.

7. Section 3.1.15 was added and states that the Secretary has the authority to suspend or revoke an approved R13 permit if the construction and operation are not in accordance with the plans and specifications.
8. Condition 4.3.3 of the most recent R13 permit is for boilers' and heaters' air pollution control equipment. Since air pollution control equipment is not associated with these sources but is associated with other sources (see Emission Unit Table, Section 1.1), this condition was added as a facility-wide requirement as Section 3.4.5 (see Item 4). Section 3.4.5 is for recording malfunctions of air pollution control equipment in Section 1.1.
9. The table for "Fuel Burning Units Requirements" in Section 4.0 was revised according to the changes in requirements that were made in Section 4.0 of the Title V permit.
10. In Section 4.1.2, removed "and 45CSR13 – Permit R13-2334 – 4.1.2" from the citation since 45CSR§2-4.4 was removed from the current NSR permit.
11. Revised the citations for Sections 4.1.3, 4.1.4, 4.1.6, 4.1.7, 4.1.8, 4.1.9, 4.1.11 through 4.1.14, 4.1.17 through 4.1.20, 4.1.22 through 4.1.25, 4.2.3, 4.2.8, 4.4.1 through 4.4.6, and 4.4.8 through 4.4.15 to correspond with the matching conditions in the recent version of the R13-2334 permit.
12. In Section 4.1.5, removed "and 45CSR13 – Permit R13-2334 – 4.1.5" from the citation since 45CSR§10-9.1 was excluded from the current R13-2334 version.
13. Revised the header for Sections 4.1.7 through 4.1.11 by replacing "H-101, H-102, H-441, H-701, H-500S, H-600S, H-901, H-1101" with "Except H-201"
14. For the table in Section 4.1.7, added "LBs/hr" under "PM Emission Limit" heading and removed "pounds per hour" from the numeric value given for each emission unit in the table and revised number values where appropriate.
15. The citation for Section 4.1.9 was revised to include "45CSR16, 40 C.F.R. § 60.11 (d)" to coincide with Condition 4.1.7 citation in the current R13-2334 version.
16. In Section 4.1.10, removed "and 45CSR13 – Permit R13-2334 – 4.1.10" from the citation since 45CSR§10-3.1 was omitted the current NSR version. 45CSR§10-3.1 is referenced in Sections 4.1.17, 4.1.19, 4.4.8, and 4.4.10 of the Title V permit.
17. The header for Section 4.1.12 was revised to include heater H-701.
18. The header for Section 4.1.13 was amended to include heater H-701.
19. The header for Section 4.1.14 was modified to include "A and B".
20. Section 4.1.14 table was altered to agree with the current R13-2334 permit Condition 4.1.12 table by adding "TPM" and "TPY" under "Emission Limit" heading and removing "tons per month" and "tons per year" for each pollutant in the table.
21. Added header "Boiler C" to Section 4.1.17 to concur with the NSR Condition 4.1.13.
22. The increase in NO<sub>x</sub> and SO<sub>2</sub> emission limits in Section 4.1.17 table is the result of Boiler C combusting natural gas and refinery gas. This table was revised to match the current NSR permit Condition 4.1.13 table by adding "TPM" and "TPY" under "Emission Limit" heading and removing "tons per month" and "tons per year" for each pollutant. Since Boiler C does not have a continuous monitoring device to determine NO<sub>x</sub> emissions in lb/MMBtu, the amount of fuel combusted is continuously monitored and the annual NO<sub>x</sub> limit is calculated based on the maximum rating of the unit, assuming 8760 hours of operation and the Consent Decree NO<sub>x</sub> limit of 0.050 lb/MMBtu. The ton per month limit is determined by dividing the annual limit by 10 months rather than 12 months. This allows the facility some operational flexibility on a short term

- basis. Thus, the NO<sub>x</sub> TPM emission limit in Section 4.1.17 table was revised to match the current NSR permit. The NO<sub>x</sub> TPY emission limit of 20.81 in the NSR permit Condition 4.1.13 table is more stringent than the calculations for 366 days per year of 20.862 TPY when using 0.050 lb/mmBTU. The 365 days per year calculation is 20.805 TPY when using 0.050 mmBTU. This corresponds to the NO<sub>x</sub> TPY limit in the NSR permit Condition 4.1.13 table of R13-2334P when rounding. The NO<sub>x</sub> TPY emission limit in Section 4.1.17 table was revised to 20.81 from 0.050 lb / mmBTU. Section 4.1.17 citation was revised to include "Consent Decree Civil No. 3:03SV114010S V.11.B" since the NO<sub>x</sub> emissions limit for Boiler C is set for 0.050 lb/ mmBTU in the Consent Decree.
23. Section 4.1.18 table was amended to coincide with the recent R13-2334 permit Condition 4.1.15 table by adding "TPM" and "TPY" under "Emission Limit" heading and removing "tons per month" and "tons per year" for each pollutant in the table. Section 4.1.18 citation was revised to incorporate "Consent Decree Civil No. 3:03SV114010S V.11.B" since the NO<sub>x</sub> emissions limit for H-101 is set for 0.065 LB/mmBTU in the Consent Decree.
24. In Section 4.1.19 table, the NO<sub>x</sub> limits for heater (H-201) were changed from 0.34 TPM and 3.40 TPY to 0.28 TPM and 2.76 TPY and the SO<sub>2</sub> limits for heater (H-701) were amended from 0.01 TPM and 0.03 TPY to 0.14 TPM and 1.40 TPY. These revisions match Condition 4.1.16 table of the current R13-2334 version.
25. In Section 4.1.21, removed "45CSR13 – Permit R13-2334 – 4.1.21" from the citation and incorporated "and/or treated refinery fuel gas" in the requirement for heater (H-701), which corresponds to CO-SIP-95-1 IV. 6. Heater (H-701) currently combusts natural gas and refinery gas. Condition 4.1.21 was omitted from the current NSR permit.
26. Since Conditions 4.1.19 and 4.1.20 of the existing NSR permit are identical, only Condition 4.1.19 was incorporated as Section 4.1.23 and both conditions were included in the citation.
27. Header, "Boilers A, B, and C, Heaters H-101, H-102, H-201, H-500S, H-600S, H-701, and H-901," was inserted above Section 4.1.25 to match the R13 permit.
28. Section 4.1.25, previously 4.1.24, was revised by replacing "Heater H-901" with "The permittee" since the Ergon boilers and heaters are affected facilities that are subject to 40 C.F.R. Part 60 Subpart J, according to Consent Decree Civil No. 3: 03CV114010S. Without the Consent Decree, not all the boilers, heaters, and flare would meet the NSPS applicability section of 40 C.F.R. Part 60 Subpart J. If 40 C.F.R. Part 60 Subpart J was revised to exempt certain fuels, according to the Consent Decree, the exemption would apply to the Ergon facility in WV. Condition 4.1.23 of R13-2334P (see Section 4.1.25 of the Title V permit) was revised to include all heaters and boilers except for H-441 and H-1101. H-441 and H-1101 are exempt since they only combust natural gas. 40 C.F.R. Part 60 Subpart J defines fuel gas as combusted gas that is generated by the petroleum refinery. Natural gas is considered as fuel gas when it is mixed with the refinery gas. "Consent Decree Civil No. 3:03SV114010S V.12.B" was included in Section 4.1.25 citation.
29. Boiler C and heater H-701 were included in Section 4.2.8 heading to match the R13 permit.
30. Boilers A, B and C, Heaters H-101, H-102, H-201, H-500S, H-600S, H-701, and H-901 were added as a Section 4.2.9 heading since these units combust refinery fuel gas streams. The hydrogen sulfide of the refinery fuel gas streams is to be monitored according to CO-SIP-95-1 - Conditions V.6 and V.11 (SIPed).
31. Section 4.3.1 was replaced with "Reserved" since Boilers A and B are equipped with NO<sub>x</sub> CEMs and the NO<sub>x</sub> emission limits have been established. If required, Section 3.3.1 allows for Boilers A and B stack testing as required by Secretary.

32. Section 4.3.2 was replaced with “Reserved” since the NSR permit engineer does not believe Condition 4.3.2 (R13-2334O) was necessary to carry this condition over to R13-2334P. Section 4.3.2 was for the performance testing to determine NO<sub>x</sub> emissions rate limits as set forth in Sections 4.1.17 and 4.1.18 for Boiler C and Heater 101. The Director has the authority to require such testing at any time with or without this condition.
33. Section 4.3.4 was replaced with “Reserved” since the NSR permit engineer does not believe Condition 4.3.3 (R13-2334O) was necessary to carry this condition over to R13-2334P. Section 4.3.4 was for the performance testing to determine NO<sub>x</sub> emissions rate limits as set forth in Sections 4.1.18, 4.1.19, and 4.1.22 for Heaters H-101, H-102, H-201, H-500S, and H-600S. The Director has the authority to require such testing at any time with or without this condition.
34. Boilers A, B and C, Heaters H-101, H-102, H-201, H-701, H-500S, H-600S, H-901 were added as a heading for Section 4.3.5 since these units combust refinery fuel gas streams. The hydrogen sulfide of the refinery fuel gas streams is to be monitored according to CO-SIP-95-1 - Conditions V.6 and V.11 (SIPed).
35. Section 4.3.6 was replaced with “Reserved” since the NSR permit engineer states that the demonstration of compliance for H<sub>2</sub>S standard in 40 C.F.R. § 60.104 (a) (1) for H-901 is covered under Sections 4.2.9 (a) (iii) and 4.2.11.
36. Inserted Boiler C and Heater H-701 in the header for Sections 4.4.4 and 4.4.5. This reflects the change in fuel type from natural gas to fuel gas. Fuel gas is refinery gas plus natural gas. H-901 was removed from the heading.
37. Removed the second “set forth” in the first sentence of Sections 4.4.8, 4.4.10, 4.4.11, and 4.4.12 since it is redundant.
38. Heater H-701 was removed from Section 4.4.11 requirement since it is fueled by refinery gas and natural gas. Section 4.4.11 is a requirement for natural gas. “H-701 and” was removed from the citation.
39. Heater H-701 was added to Section 4.4.12 requirement since it is fueled by refinery gas and natural gas. “Four” replaced “three” in the first sentence of Section 4.4.12 which is for keeping individual monthly records of fuel consumed by each heater. “H-701” was also added to the citation.
40. “And/or diesel” was removed from Section 5.1.6 since gasoline is the only product loaded by truck.
41. Ergon requested that the VOC emission revision in Section 5.1.6 table of the Title V permit minor modification be changed from 9.47 to 9.07 TPY. This change corresponds to Condition 5.1.6 table of the current R13-2334 permit.
42. Section 5.1.7 Main/Sour Gas Flare emissions table was updated according to Condition 5.1.8 of the current R13-2334 permit. Also, the “TPM” and “TPY” was added under “Emission Limit” heading and removed “tons per month” and “tons per year” for each pollutant in the table.
43. Replaced OXIDIZER with TLoad in Section 5.1.12 since thermal oxidizer is not used during kerosene loading at the Truck Loading Rack.
44. “Pollutant” and “TPY” were added as a heading to Section 5.1.12 table and “TPY” was also removed from each pollutant in the table. Section 5.1.12 table was revised to concur with the table in Condition 5.1.7 of the current R13-2334 permit.

45. Section 5.2.2 is a new requirement for the facility to determine compliance with the monthly emission rates for the Flare (see Section 5.1.7), which concurs with Condition 5.2.2 of the current NSR permit. To clarify what the permittee shall maintain, “records of” was added to the first sentence of Section 5.2.2, which now reads “the permittee shall maintain (records of) fuel gas usage/flow (scf/hr) and hours of operation for pilot and non-pilot conditions of the Main/Sour Gas Flare.”
46. Section 5.2.3 was revised by replacing “crude charge” with “loading” and “flaring” with “loading losses” as shown in Condition 5.2.3 of the latest R13-2334 permit.
47. The contents of Section 5.5.1 were removed and replaced with “Reserved” since Condition 5.5.3 was removed from the NSR permit. This condition does not continue post termination of the Consent Decree Civil No. 3:03SV114010S.
48. Section 6.1.2 emission limitations table was combined with Section 6.1.5 emission limitations table to form the new Section 6.1.2 emission limitations table. Then, the former Section 6.1.5 was removed. The established emission limits will be associated with throughput limits instead of calculations that used monthly throughput records. By merging these sections, calculation of the annual emissions would be done once per year.
49. Section 6.1.3 is a new requirement requiring that the loading of all vessels shall be submerged filled.
50. “Kerosene loading by Marine Barge shall not be greater than 46,000,000 gallons per year” was incorporated from the former Section 6.1.5 to the new Section 6.1.4 table.
51. Section 6.1.4 is a new requirement for products and the amount of products per year loaded in to vessels.
52. The previous Sections 6.1.3 and 6.1.4 were renumbered as Sections 6.1.5 and 6.1.6 because of the two new requirements and combining Sections 6.1.2 and 6.1.5 emission limitations table in Section 6.1.2. Then the prior Section 6.1.5 was deleted (see Item 46).
53. Conditions 6.1.6.b. 1 through 3 of R13-2334P were not included in Section 6.1.6 of the Title V since the dates listed in Conditions 6.1.6.b. 1 through 3 have elapsed. Thus, all the Refinery pumps are subject to the internal leak definition of 2000 ppm VOCs.
54. Xylene emission was revised from 0.029 to 0.04 TPY in Section 6.1.7 table, which was previously Section 6.1.6 table in the Title V renewal. The “TPY” heading was added under the main heading of “Emission Limit” and the “TPY” was removed from each pollutant in the table.
55. Section 6.4.2 was revised by removing “and 6.1.5.” since Sections 6.1.2 and 6.1.5 tables were merged (see Items 46 and 50).
56. The first paragraph in Section 6.4.4 was revised by replacing Sections 6.1.3 with 6.1.5, 6.1.6 with 6.1.7, and 6.1.4 with 6.1.6 (see Items 46 and 50).
57. Section 6.4.4.b addresses LDAR monitoring frequency. This section was removed from the Title V permit as requested by Ergon since the LDAR program is in Section 10.0 of the Title V permit. Also, Section 6.4.4.b is not a surviving condition of the consent decree (Consent Decree Civil No. 3:03CV114010S).
58. The table for “Tank Requirements” in Section 7.0 was revised according to the changes in requirements that were made in the recent R13-2334 permit.
59. As a result of the throughput changes for Tanks 4060, 4061, and 4062, the VOC emissions from the tanks have increased from 6.30 to 8.99 TPM and 29.65 to 35.94 TPY in Section 7.1.1.

60. A second line was added to the Section 7.1.1 table to include Tank 4062. This line also includes the raw material/product type and throughput rate for Tank 4062.
61. Section 7.1.2 table was revised by adding "TPY" as a heading under "Emission Limit" and "TPY" was removed from each pollutant in the table.
62. Sections 7.1.4, 7.1.5, and 7.1.6 citations were revised because Condition 7.1.5 was a MACT requirement that was removed from the R13 permit since Ergon demonstrated that the facility is a minor source of HAPs. The revisions are: 7.1.6 to 7.1.5, 7.1.7 to 7.1.6, and 7.1.8 to 7.1.7.
63. Tank 4055 was removed from the first sentence of Section 7.1.6 to agree with Condition 7.1.7 of the latest NSR permit.
64. Section 7.1.7 was removed since Tank 4050 is listed in Section 7.2.2. Section 7.1.7 requirements are identical to Section 7.2.2 requirements and their citations are also the same (40 C.F.R. § 60.113b and 45CSR§16-2.1.).
65. Sections 7.4.3 through 7.4.5 citations were revised since Conditions 7.3.3 through 7.3.6 of a previous NSR permit were MACT requirements that were removed in the current R13-2334 permit. Ergon has demonstrated that the facility is a minor source of HAPs. Thus, the remaining Conditions 7.3.7 through 7.3.9 were renumbered as 7.3.3 through 7.3.5 in recent R13-2334 permit, which are Sections 7.4.3 through 7.4.5 in the Title V permit modification.
66. Tank 4041 was included in the first sentence of Section 7.4.3 to agree with Condition 7.3.3 of the latest NSR permit.
67. Tanks 4047, 4050, and 4051 were removed from the first sentence of Section 7.4.4 according to the current NSR permit Condition 7.3.4.
68. The citations for Sections 10.1.1 through 10.1.5, 10.2.1 through 10.2.4, 10.4.1, 10.4.2, 10.5.1 and 10.5.2 were revised from Civil Decree No to Consent Decree Civil No to correspond with the identification of the Consent Decree.
69. Ergon has not made any modifications at Newell that would trigger a PSD permit for a GHG Clean Act requirement.

### **Non-Applicability Determinations**

None

### **Request for Variances or Alternatives**

None

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: Not Applicable for minor modifications  
Ending Date: N/A

All written comments should be addressed to the following individual and office:



Wayne Green  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Point of Contact**

Wayne Green  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1258 • Fax: 304/926-0478

### **Response to Comments (Statement of Basis)**

Not applicable